EPA Five-Year Review Signature Cover

Key Review Information

Site Identification			
Site name: AMERICAN CREOSOTE WORKS			EPA ID:TND007018799
Region: 4	State: TN	City/County: JACKSON, TN	
Site Status			
NPL status: FINAL			
Remediation status: FINAL			
Multiple Operable Units: YES			
Construction completion date: 9/20/93			
Fund/PRP/Federal facility lead: FUND		Lead agency: EPA REGION 4	
Has site been put into reuse?: YES (partially)			
Review Status			
Who conducted the review (EPA Region, State, Federal agency):EPA-Region 4			
Author name: FEMI AKINDELE		Author title: PROJECT MANAGER	
Author affiliation: U.S. EPA Region 4			
Review period:1995-2000		Date(s) of site inspection:1995-2000	
Highlight: Statutory		Policy Type (name): 1. Pre-SARA 2. Ongoing 3. Removal only 4. Regional Discretion	Review number: 2
Triggering action event: First Five-Year Review Date			
Trigger action date: 1/25/95			
Due date: 9/30/00			

Deficiencies:

None

Recommendations and Required Actions:

1. File deed restriction as required by ROD
2. Continue site monitoring and maintenance
3. Combine future OU1 five- year review with OU2 five-year review starting from 2004.

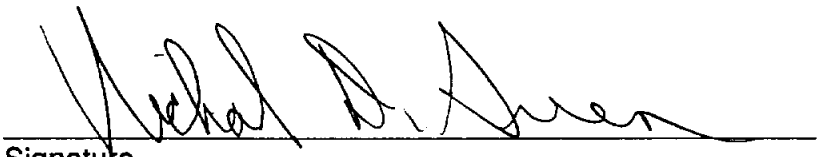
Protectiveness Statement(s):

The remedy at the AMERICAN CREOSOTE WORKS SITE (JACKSON) OU1which was reviewed in this report is protective of human health and the environment. The OU2 RA conducted in 1999/2000 completed site cleanup and greatly enhanced OU1 remedy. Use of site must be limited to industrial/commercial purposes to protect the integrity of stabilization/solidification conducted at the site under the OU2 remedy as treated waste was backfilled on-site and properly capped.

Other Comments:

Future review of OU1 remedy will be adequately covered by OU2 remedy review.
Therefore, no separate five-year review need be conducted henceforth.
First OU2 remedy review will be conducted by May 2004.

Signature of EPA Regional Administrator or Division Director and Date



Signature

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Date

Richard D. Green, Division Director

Name and Title

SECOND FIVE-YEAR REVIEW REPORT
AMERICAN CREOSOTE WORKS SUPERFUND SITE
JACKSON, TENNESSEE
SEPTEMBER 26, 2000

1.0 INTRODUCTION

Section 300.430(f)(4)(ii) of the NationalOil and hazardous Substances Pollution Contingency Plan (NCP), 40CFR Part 300, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), requires five-year reviews of a remedial action that results in hazardous substances, pollutants, or contaminants remaining at a site above levels that allow for unlimited use and unrestricted exposure. The statutory reviews must continue, at least, every five years until contaminant levels allow for unlimited use and unrestricted exposure.

This document is the second five-year review of the Operable Unit One Remedial Action (OU1 RA) at the American Creosote Site, Jackson, Tennessee. The RA construction was initiated in July 1989, and completed in early 1990. The first five-year review was reported in January 1995.

1.1 SITE LOCATION

The American Creosote Works Site (ACW) is located immediately southwest of downtown Jackson, Tennessee, in an area used predominantly for industrial purposes. It is bounded on the south by the Seaboard Railroad, on the southwest by the south fork of the Forked Deer River, on the west and north by Central Creek, and on the east by an industrial yard. Jackson has a population of more than 60,000 people. Several public and private wells are located within a 3-mile radius of the site, including a city well field. Wetlands along the river support a large,variety of wildlife.

1.2 SITE HISTORY

ACW is an abandoned 60-acre facility which utilized creosote and pentachlorophenol (PCP) to preserve wood. The plant was operated from the early 1930s to December 1981, by the American Creosote Works, Inc., which went bankrupt in May 1982. Due to the bankruptcy, no potentially responsible parties have been involved in the remedial activities conducted at the site to date.

Between early 1930s and 1973, the plant apparently discharged untreated process water on-site with minimal control and routinely polluted the Forked Deer River. In 1973, a levee was built around the facility to contain the wastewater and surface runoff Between 1974 and 1975, the

plant installed a wastewater treatment system and oil-water separators to control environmental pollution. Pits created during the construction of the levee were used to store treated process water and sludge but the pits frequently overflowed during heavy rains, flooding the main process area, and releasing waste into the river.

Contaminants of concern at the site included arsenic, dioxin, PCP, and polyaromatic hydrocarbons (PAHs). The site posed potential human health hazards and environmental threats primarily through incidental ingestion of site contaminants, dermal contact with contaminated soil, and/or inhalation of contaminated dust by trespassers and unprotected workers at the site. In addition, groundwater, surface water, and sediments from the site, which were contaminated with creosote and PCP, were transported offsite by various mechanisms, thereby posing a threat to human health and the environment outside the boundaries of the site.

Enforcement actions began at the site in November 1981, when the State installed four monitoring wells around the property. In December 1981, the facility was issued a National Pollution Discharge Elimination Systems Permit . In the same month, the plant closed down. The operator filed for bankruptcy protection under Chapter 11 in May 1982. During 1982 and 1983, the State conducted several inspections of the facility. All inspections resulted in citations for permit violations by the operator. Concurrently, the State collected environmental samples to evaluate the site and concluded that human health and the environment were at risk due to the prevailing conditions. Based on the facility's conditions and insolvency of the operator, the State requested emergency response from EPA in June 1983. Ranking of the site for the National Priorities List (NPL) was completed in September 1984, and actual listing occurred in the following month.

EPA has conducted a series of clean-up activities at American Creosote Site since 1983. The activities have included emergency removal, treatment and disposal of hazardous waste, pollution control, environmental sampling, laboratory analyses, remedial investigations and feasibility studies, and stabilization/solidification of contaminated soil. Initially, EPA inspected the site and conducted field sampling which confirmed that soils, surface water, sludge, and shallow sub-surface water were contaminated by creosote and PCP. This lead to an immediate removal, treatment, and proper disposal of several thousand gallons of hazardous liquids and sludge.

In late 1985, EPA approved an action memo to fund a Remedial Investigation/Feasibility Study (RI/FS) for the site. The RI/FS was conducted by the US Army Corps of Engineers. Based on the results of the work, a Record of Decision (ROD) was published in January 1989. The ROD outlined plans for cleaning the site in phases (operable units), and identified the tasks for Operable Unit 1 (OU1) as follows:

1. Deed restrictions to limit further use of the site

2. Construction of flood protection dike around the site and site stabilization.

3. Removal and disposal of tanked liquids and sludge.

4. Removal and disposal of site structures.

5. Installation of security fencing around the site.

The remedial requirements for OU1 were accomplished between January 1989 and August 1991, except that some of the site structures remained to be demolished and no deed restriction was filed. The flood protection levee was constructed and functional by early 1989. It was upgraded for improved effectiveness in 1990. Tanked liquids and sludge were accumulated, treated on-site and finally incinerated off site. Several site structures, including buildings and tanks, railroad lines, railroad ties, and other plant equipment determined to constitute immediate hazards were demolished, dismantled and/or salvaged. Chain-link security fence was installed around the entire site in 1991.

OU1 activities focused on mitigating hazardous conditions at the plant process area, protecting the river, and preventing indiscriminate access to the site. Other problems and remedial activities related to contaminated soil and groundwater at the site were deferred to future operable units. To maintain site surveillance during the period of planning for soil and groundwater remedial activities, Site Stabilization activities were provided for and funded through a Superfund-State Contract dated May 1989, and a Support Agency Cooperative Agreement dated April 1993. The Site Stabilization activities were conducted between 1993, and 1998, by the State and included general site up-keep, maintenance of flood prevention facility, the perimeter fence, site grounds, erosion control, and lagoon water sampling.

1.3 SUMMARY OF PREVIOUS FIVE-YEAR REVIEW

An evaluation of the OU1 remedial action was reported in the first Five-Year Review dated January 25, 1995. According to the report, the OU1 remedial tasks that were accomplished are permanent and generally effective. Tanked liquids, sludge, and site structures removed and disposed of no longer pose threats to human health or the environment. The security fence around the site effectively prevents unauthorized entry. However, the review noted that other structures remained to be removed from the site and the deed restrictions to limit further use of the site as required by the OU1 ROD was pending. In addition, there were operational problems with the flood control levee and equipment which needed to be resolved. The pump installed as part of the remedial action to remove and discharge water from the site to the river during heavy rains and flooding malfunctioned frequently. Consequently, water accumulated on top of the stabilized sludge which was buried on-site. Other than the unfavorable observation that some areas of the site inside and outside the fence which were required to be cleared under the Site Stabilization Cooperative Agreement were overgrown, the first five-year review indicated that site maintenance was satisfactory. The review concluded by recommending that the Site Stabilization activities be continued as planned through April 1998, and anticipated further remedial actions at the site.

1.4 PROGRESS SINCE THE LAST REVIEW

Since the last review, additional remedial investigation was completed which resulted in the decision to conduct a final remedy at the site under a second operable unit (OU2). The OU2 ROD was issued in September 1996. The remedy selected in the ROD was based on industrial clean-up scenario. It called for removal and offsite disposal of creosote and contaminated water from the soil, solidification and on-site burial of contaminated soil, deed restriction, and site monitoring, including groundwater, for five years. The remedial action was conducted between May 1999, and May 2000. As part of the work, several site structures were demolished and removed from the site or disintegrated and buried on-site. Creosote and water were drained from the soil. Contaminated soil was excavated and treated with cement, carbon, and fly ash before back-filling and compacting. Buried materials were covered with geosynthetic clay liner, and capped with twenty-four inches of dirt. The site was then graded and seeded with grass. In effect, this remedial action included and accomplished the necessary site structure removal which the OU1 work did not complete. In addition, the OU2 remedy required deed restriction and site monitoring which OU1 called for also.

Several unsuccessful attempts were made by the State to repair the malfunctioning pump which was installed as part of OU1 remedy to control flood water at the site. To improve the condition, the State abandoned the pump in 1998, and cut the levy to allow water to flow freely to the nearby Central Creek instead of accumulating on-site. during heavy rains and flooding. This proved to be more effective for flood control than the pump which was unreliable. As stated above, part of the OU2 remedial action work completed in May 2000, was site grading which was designed to enhance flood control at the site also.

1.5 ARARS REVIEW

The applicable or relevant and appropriate requirements (ARARs) for the OU1 remedy as listed in the OU1 ROD were reviewed relative to this report. Both federal and state standards were considered as part of the remedy selection. No activities conducted to date under the Operable Unit have modified the ARARs.

2.0 CURRENT SITE CONDITIONS

With the completion of OU2 remedial construction, conditions at this site have improved significantly since the last review. As stated before, remaining structures, equipment and debris requiring removal after the OU1 activities were removed during the OU2 construction. The site was graded and seeded with grass. Surface soil is clean and threat to human health due to direct contact with the soil has been eliminated. Recently, a local company expressed interest in acquiring the property for light industrial use, indicating that it is considered valuable. In summary, current site conditions are satisfactory aesthetically and environmentally.

3.0 CONCLUSIONS

The goal of the OU1 remedial action was to mitigate hazardous conditions at the site, particularly the plant process area, protect the nearby river, and prevent unrestricted access to the site. The previous five-year review concluded that the remedial action was permanent and effective with the exception of the flood control pump that broke down frequently. The current review has identified substantial improvement in the site conditions due to changes made in the flood control strategy, and OU1 remedy enhancement by virtue of OU2 activities. Therefore, the goal of the OU1 remedial action has been accomplished. The remedy remains permanent, functional and should be effective indefinitely.

4.0 RECOMMENDATIONS

Some uncompleted tasks of the OU1 remedy were identified in this review. They are the deed restriction requirement, site maintenance (grass cutting, fence/gates, grounds, etc), and surface water monitoring. These tasks are also part of the OU2 remedial activities. Due to the overlap, it is recommended that they are conducted under OU2 and removed from OU1 requirements. In addition, no further five-year reviews need be conducted for OU1 remedial action because the five-year reviews for OU2 remedy, the first of which is due four years from now, will adequately address the effectiveness of all ACW clean-up activities.

5.0 PROTECTIVENESS STATEMENT

The OU1 remedial activities at this site included removal and proper disposal of creosote and other tanked sources of contamination, treatment and burial of solidified sludge, construction of flood protection dike around the site, removal and disposal of contaminated structures, and installation of security fencing. These activities reduced human exposure to hazardous materials at the site considerably. Subsequent remedial action conducted under OU2 was designed to eliminate other risks of human exposure considering industrial scenario. Therefore, the site is protective of human health under controlled use.

6.0 NEXT FIVE-YEAR REVIEW

No further five-year review of the OU1 remedial action is deemed necessary. Five-year reviews of the OU2 remedial action, the first of which is due by May 2004, are expected to address all remedial activities at the site.